



Report Number: ICRR0023193

1. Project Data

Project ID
P133261

Project Name
Guizhou Rural Development Project

Country
China

Practice Area(Lead)
Agriculture and Food

L/C/TF Number(s)
IBRD-84340

Closing Date (Original)
31-Aug-2020

Total Project Cost (USD)
100,000,000.00

Bank Approval Date
30-Sep-2014

Closing Date (Actual)
31-Aug-2021

	IBRD/IDA (USD)	Grants (USD)
Original Commitment	100,000,000.00	0.00
Revised Commitment	100,000,000.00	0.00
Actual	100,000,000.00	0.00

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2. Project Objectives and Components

a. Objectives

This project was part of a series of Bank-financed projects to scale up innovative features in China's poverty reduction program. The first three projects (during 1995-2006) demonstrated multi-sector approaches to rural poverty reduction in various areas of extreme rural poverty. Two subsequent projects during 2005-2012 promoted more participatory and community-driven approaches to rural development in marginal areas.



The Project Development Objective (PDO) of the Guizhou Rural Development Project as stated in the Loan agreement (LA, page 5) was identical to the one stated in the Project Appraisal Document (PAD, paragraph 10) and aimed to:

"demonstrate a model for agricultural sector restructuring and modernization, improved organizational arrangements, and strengthened public service delivery in the Project Counties of Guizhou Province."

Parsing the PDO. Since the formulation of the PDO as stated does not allow a meaningful evaluation, this Review infers—based on the project's activities, since the outcome targets were also unclear—that the intended objectives are in this inferred PDO: *"to improve organizational functioning and strengthen public service delivery in the agriculture sector of Project Counties of Guizhou Province, thereby establishing the foundations for sector restructuring and modernization."* While taking this inferred PDO into account, the stated PDO will be parsed according to the following three objectives:

1. To establish a model for agricultural sector restructuring and modernization in the Project Counties of Guizhou Province.
2. To improve organizational arrangements in the Project Counties of Guizhou Province.
3. To strengthen public service delivery in the Project Counties of Guizhou Province.

b. Were the project objectives/key associated outcome targets revised during implementation?
Yes

Did the Board approve the revised objectives/key associated outcome targets?
Yes

Date of Board Approval
05-Sep-2018

c. Will a split evaluation be undertaken?
No

d. Components

The PDO was supported by the following four components:

1. Modernization of Agricultural Key Commodity Value Chains (appraisal cost: US\$63.73 million, actual cost: US\$66.42 million). This component included the following five sub-components:

1.1. Farmer Cooperative Development. Construction of offices and acquisition of basic office furniture and office equipment for the use of Project Farmer Cooperatives.

1.2. Farmer Cooperative Development Fund (CDF). Provision of Grants to Project Farmer Cooperatives to finance Establishment Costs and investments in agricultural products and services for value chain development.



1.3. Value Addition. Provision of financing to Cooperating Agro-enterprises for investments in commercial processing, post-harvest handling, storage and packaging of agricultural products produced, in partnership with Project Farmer Cooperatives.

1.4. Market Exploration and Development. Carrying out of marketing studies, product promotion, up-grading of quality standards and food safety monitoring, certification, labelling and brand naming, and construction of product markets.

1.5. Risk Prevention and Mitigation. Provision of agricultural crop insurance for selected crops in order to pilot crop- and livestock insurance schemes for the benefit of qualifying members of Project Farmer Cooperatives.

2. Public Infrastructure and Services (appraisal cost: US\$52.09 million, actual cost: US\$48.34 million). This component included the following two sub-components:

2.1. Supporting infrastructure construction. This included: (i) off grade production road infrastructure, and (ii) tractor roads, field tracks, and foot paths; construction of irrigation and drainage infrastructure; establishment of communications and information infrastructure including acquisition of equipment; construction of public market facilities, including installation of electricity supply and other infrastructure and acquisition of goods necessary to facilitate and complement investments under Component 1 of the Project.

2.2. Carrying out of public services in support of Project Farmer Cooperatives. This included: (i) construction of food testing certification facilities and acquisition of equipment; (ii) carrying out of food safety testing and control; (iii) provision of public extension and training services; and (iv) carrying out of agriculture research, and technology transfer activities, including recruitment of cooperative advisors.

3. Training and Capacity Building (appraisal cost: US\$9.13 million, actual cost: US\$5.86 million). This component would provide technical assistance and training to farmers and agricultural technicians, including preparation of training materials, review and improvement of investment proposals for key commodity value chains, training in safeguards awareness and implementation training.

4. Project Management, Monitoring and Evaluation (appraisal cost: US\$5.35 million, actual cost: US\$5.86 million). This component included the following two sub-components:

4.1. Strengthening of institutional capacity and capability of the county, municipality and provincial Project management offices to manage, implement and monitor Project activities. This included the monitoring of environmental and social safeguards requirements, through the provision of technical assistance and domestic and international training.

4.2. Carrying out of policy advisory studies in the Project Counties. This included studies on poverty reduction, agriculture development, and rural sectors in poor areas, and on how to improve the investment environment, governance, and fair benefit sharing for cooperatives and enterprises.

e. Comments on Project Cost, Financing, Borrower Contribution, and Dates

Project Cost. The total project cost was estimated at US\$140.51 million. The actual cost according to the ICR Data Sheet (page 2) was US\$135.82 million or 96.6% of the estimated amount. The difference was due to cost savings that were achieved through competitive bidding (ICR, paragraph 54).



Financing. The project was financed through an IBRD Loan worth US\$100.00 million, with a maturity of 29 years, including a 6-year grace period. According to the ICR Data Sheet (page 2) the loan amount was fully disbursed.

Borrower Contribution. The Borrower was expected to provide US\$40.51 million of counterpart funds. The actual amount contributed was US\$35.82 million or 88.4% of the expected amount.

Dates. The project was approved on September 30, 2014 and became effective six months later on March 9, 2015. The Mid-Term Review was conducted on September 18, 2017, which was about 2.5 years into effectiveness. While the PAD did not specify a date for the MTR, it was adequately timed for a five year project. The project was expected to close on August 31, 2020, but the closing date was extended by 12 months to close on August 31, 2021. According to the ICR (paragraph 22) "the extension was needed in order to allow more time for implementing the restructured project and to achieve the expected outcomes."

The project was restructured once (Level 2) on September 5, 2018, when the amount disbursed was US\$27.68 million, in order to revise the Results Framework (RF), introduce changes to components and cost, extend the Loan closing date from August 31, 2020 to August 31, 2021, reallocate funds between disbursement categories, and change the implementation schedule.

While the PDO targets were revised, a split rating will not be applied to assess the overall outcome because neither the objectives nor overall level of ambition of the project changed. In addition, the original targets for PDO indicators 1,3 and 4 were substantially achieved or exceeded, and the original PDO indicator 2 was dropped. Finally, applying a split rating will not affect the weighted outcome calculation (ICR, paragraph 29).

3. Relevance of Objectives

Rationale

Context at Appraisal. Guizhou Province is a land-locked province in southwest China with a total population of about 40 million of which about 40% belong to various ethnic minorities. It continues to be the poorest province in China. About 80% of Guizhou's total land area belongs to the karst topography areas of the Wuling and Wumeng Mountains. These geographic conditions, combined with poor accessibility, pose challenges to sustainable and economically viable agricultural development. Agriculture remains a key sector and entry point for rural development, poverty reduction, and long-term employment and income opportunities for segments of the population that will not migrate. Agriculture also provides new opportunities for returnees with good business ideas. Restructuring of the sector is necessary to develop efficient markets for rural land transfers; promote the consolidation of production into larger units in the form of specialized households, cooperatives or enterprises; accelerate technological change; and increase productivity and efficiency to allow for income growth and the catching up with urban incomes.

Previous Bank Experience. This project was part of a series of Bank-financed projects to scale up innovative features in China's poverty reduction program. The first three projects (during 1995-2006) demonstrated multi-sector approaches to rural poverty reduction in various areas of extreme rural poverty. Two subsequent projects during 2005-2012 promoted more participatory and community-driven approaches



to rural development in marginal areas. In addition, the Bank has a rich regional and global experience is supporting agriculture development in different countries.

Consistency with the Bank Strategies. At appraisal, the PDO was in line with Bank's Country Partnership Strategy for China (CPS, FY2013-FY2016). The project would support the CPS' strategic theme two: promoting more inclusive development, by geographically focusing on lagging regions and small towns and by supporting policies and demonstration projects that address inequalities. It would contribute to the CPS outcome 2.3: enhancing opportunities in rural areas and small towns, by piloting new ways to boost rural incomes and reduce poverty and by promoting inclusive innovation to decrease disparities.

At completion, the PDO continued to be in line with the Bank's Country Partnership Framework for China (CPF, FY 2020-FY2025), which, among other things, aimed to address the inequalities that have emerged during China's rapid development, promote shared prosperity, enhance critical services in the lagging regions, and strengthen China's private sector development. The project contributed to poverty reduction and responded to the following CPF aspects: Sharing the benefits of growth (Engagement Area 3), Supporting critical services in lagging regions (CPF Selectivity Criterion), and Fostering private sector development (CPF Selectivity Criterion).

Consistency with the Government Strategies/Priorities. At appraisal, the PDO was in line with China's 12th Five Year Plan and is in line with the Outline for Development-oriented Poverty Reduction for China's Rural Areas (2011-2020) and Guizhou's rural development and poverty reduction strategies and programs (PAD, paragraph 9). At completion, the PDO continued to be in line with key priority areas in Guizhou Province's 14th FYP (2021-2025), including the development of agricultural value chains to be led by farmer cooperatives in collaboration with private sector investment. The PDO also continued to be in line with China's Rural Revitalization Program (RRP, 2018-2035), which stated that sustainable increase in rural income and enhancing access to rural infrastructure and public services was its main objective. The RRP also put agricultural value chain promotion as one of the pillar activities in its sub-program for green agriculture development (ICR, paragraph 27).

Summary of Relevance of Objectives Assessment. At completion, the PDO (taking into account the actual activities hence inferred PDO) remained relevant and in line with Bank's strategy and the Borrowers priorities at both regional and national levels. However, the original PDO statement could have benefited from a better formulation to reflect a simpler more focused statement of objectives that had a clear connection with stated activities. The ICR (paragraph 67) noted that "the formulation of the PDO and the relation with PDO indicators were not clearly defined." Overall, Relevance of Objectives is rated Substantial.

Rating

Substantial

4. Achievement of Objectives (Efficacy)



OBJECTIVE 1

Objective

To establish a model for agricultural sector restructuring and modernization in the Project Counties of Guizhou Province.

Rationale

Theory of Change (ToC). To achieve the stated objective, the project would establish new and support existing farmers cooperatives, support the farmers cooperative development fund to invest in cooperatives business plans, and strengthen forward and backward market linkages. As a result of these activities, the following outputs would be achieved: 81 cooperatives would be mobilized and established, 80 business plans developed, approved and implemented, value chain (VC) function upgraded with 59 products receiving certification. The expected outcomes included: 1. Strengthened VC institutions (cooperatives) and market linkages, 2. Poor farmers able to participate in VC economic activities, 3. Private investments leveraged for key VCs, and 4. Production quality and value addition improved. All this combined was expected to contribute to the achievement of the PDO "to demonstrate a model for agricultural sector restructuring and modernization in the Project Counties of Guizhou Province." The anticipated long-term impact was expected to be increased farmers' income especially for ones under poverty; and achieving inclusive and sustainable rural industrialization.

The achievement of this objective was underpinned by the following two critical assumptions: 1. The training provided would be technically and financially viable for farmers to adopt, and 2. An enabling policy environment would exist for the cooperatives management and sustainability.

Overall, the stated activities in the ToC were directly linked to the outputs, and outcomes in a plausible causal chain. However, the connection to the PDO was not clearly defined. The critical assumptions were realistic and logical.

Outputs/Intermediate Results

1. 80 cooperatives were legally established exceeding the target of 72.
2. 80 cooperatives received development funds exceeding the target of 72.
3. 59 agro-products under the project obtained brands or certifications exceeding the target of 12.

Outcome

- The assessment of objective 1 is guided by establishing the conditions for agricultural restructuring and modernization. The modernized agriculture sector was reflected through improved value chains for leading agricultural commodities with strengthened institutions and forward and backward marketing linkages (ICR, paragraph 28). The project promoted a productive partnership (company + cooperative + farmer) model, supported contract farming, and therefore established a stable production/sales relationship to enhance farmer horizontal and vertical integration.
- Under the project, 80 farmer cooperatives were legally established and supported by development funds (revised target exceeded). The project adopted a market-driven model with investment decisions based on sound business planning. As a result of greater scale and better organization in the cooperatives, production became standardized, production quality and quantity improved (paragraph 33) and access to market information and services increased (paragraph 40), farmers' bargaining power increased (paragraph 34), and overhead expenses decreased. The share of poor



households (as share of total poor households per village) in the community that join newly established or improved cooperatives reached 83% which exceeded the target of 60% (PDO indicator 3).

- The project guided cooperatives to engage in processing, branding, marketing, and market information services, all of which enhanced value addition of farmer production. Through cooperatives, farmers diversified their marketing channels: direct sale to supermarket, online platforms, farmer exhibitions, and agricultural product promotion conferences. Through project support, 59 agro-products obtained brands or certifications, significantly exceeding the target of 12. The project also promoted e-commerce which allowed cooperatives located in remote areas to access remunerative markets that would otherwise remain inaccessible (ICR, paragraph 33).
- By project completion, 45% of the cooperatives became profitable exceeding the target of 40% (PDO indicator 1). The ICR (paragraph, 34) explained that farmers' income increased through various channels: (i) employment generation where data from 19 representative cooperatives showed an additional US\$0.3 million was paid to farmers through on-site employment generation (i.e., 247,858 person-days), which was a 9% increase compared to the situation if no cooperatives were established, (ii) higher farm gate prices received, where data from 13 randomly selected cooperatives had an additional US\$0.64 million paid for purchasing farm products indicating higher farm gate prices (23.5% higher than retail sale by farmers individually), and (iii) dividends received where a total of US\$0.4 million paid by 23 cooperatives (i.e., 52% of cooperatives). The share of poor households (as share of total poor households per village) in the community that join newly established or improved cooperatives reached 83% which exceeded the target of 60%.
- To avoid market distortions, the project used public funding to create sustainable institutions to address market failures (i.e. mobilizing farmers into cooperatives to improve economies of scale and reduce transaction costs) while allowing the private sector to work on long-term competitiveness. This was evidenced by PDO indicator 4 (Private capital mobilized) which achieved more than four times its target (Target: CNY 100 million; Actual: CNY 407.8 million). This was, in part, because the project design emphasized the linkages with private sector investment to improve the financial sustainability of the cooperatives. Co-financing with the private sector was also envisioned, with improved institutions and public infrastructure for production and processing activities lowering transaction costs for private enterprises to participate, while public investment and technical assistance lowered the risks of investment (ICR, paragraph 35).
- The ICR (paragraph 36) noted that some project counties lagged behind and require additional support and oversight from the provincial project management office (PPMO) after project closure. This was partially attributed to inadequate assessments during the identification stage which led to financial loss and discontinuation of the cooperatives, which in turn caused farmers to lose confidence and trust in private enterprises. Also, five cooperatives discontinued their operations in some remote villages. This was due to poor accessibility and high transportation costs, which reduced competitiveness, and made it challenging to retain qualified cooperative managers.

Summary of Efficacy Assessment. The evidence provided in the ICR pointed to the success of the project in demonstrating a model for agricultural sector restructuring and modernization through improved value chains with strengthened institutions and forward and backward marketing linkages. The project exceeded its PDO outcome targets for the three PDO indicators pertaining to this objective. Also, the target for one intermediate outcome indicator was exceeded and two were fully achieved. However, there were some shortcomings related to the sustainability of cooperatives in remote villages and lagging activities



in some areas. Therefore, the efficacy with which this objective was achieved is rated Substantial with moderate shortcomings.

Rating

Substantial

OBJECTIVE 2

Objective

To improve the organizational arrangements in the Project Counties of Guizhou Province.

Rationale

Theory of Change (ToC). To achieve the stated objective, the project would construct and rehabilitate public infrastructure to support farmers cooperatives and rural value chains, and carry out public service to support cooperatives (e.g. certification extension, training and Research and Development). As a result of these activities, the following outputs would be achieved: road or foot paths constructed/rehabilitated with increased connectivity; extension, training, research marketing service carried out; and training conducted to farmers cooperatives management staff and government staff. The expected outcomes included: improved production quality and value addition; and improved capacity for farmers and cooperative managers. All this combined would contribute towards achieving the PDO: "to demonstrate improved organizational arrangements in the Project Counties of Guizhou Province." The anticipated long-term impact was expected to be increased farmers' income especially for ones under poverty; and achieving inclusive and sustainable rural industrialization.

The achievement of this objective was underpinned by the following two critical assumptions: 1. No adverse weather conditions or disaster situation; and 2. Inputs and services provided can reach to the intended target beneficiaries.

Overall, the stated activities in the ToC were directly linked to the outputs, and outcomes in a plausible causal chain. However, the connection to the PDO was not clearly defined. The critical assumptions were realistic and logical.

Outputs/Intermediate Results

1. A total of 819 km of roads, tractor roads, and field paths were built or improved by the project exceeding the target of: 640 km.
 - a. 485.8 km of production roads were built or improved by the project exceeding the target of target: 200 km.
 - b. 186.36 km of tractor roads were built or improved by the project exceeding the target of: 50 km.
 - c. 147 km of foot paths were built or improved by the project which was below the target of: 390 km.
2. 3,468 person-months of advisory or facilitation services provided to cooperatives under the project which was below the target of: 5,000.



3. 92 water tanks were constructed with a total volume of 6,203 cubic meters (no target provided).
4. 36 Water towers were constructed (no target provided).
5. 170 km of water pipe network (no target provided).

Outcomes

- This objective lacked any final development outcome indicators to measure its achievement. The ICR, and in accordance with the Bank's ICR guidelines, relied on two intermediate results indicators for assessment. By project completion, a total of 819 km of roads (IRI 1), tractor roads, and field paths were built or improved exceeding the revised target of: 640 km, but slightly below the original target of: 890 km. Two out of three sub-indicators significantly exceeded both the original and revised targets, while the foot path sub-indicator is 62% short of the target as noted above. According to the ICR (paragraph 38) the overachievement of the two sub-indicators while falling short on the third was because infrastructure was largely demand-driven, and could not be fully predicted. according to the ICR (paragraph 38) "the counties reported that the roads constructed significantly reduced travel time, production/marketing costs, and maintenance and management costs." The project also supported training of 3,468 person-months of advisory or facilitation services provided to cooperatives under the project which was below the target of: 5,000 (IRI 2).
- The project also rehabilitated/constructed irrigation and drainage infrastructure. This improved water availability for production, processing capacity, and drinking water safety (ICR, paragraph 38).
- Finally, the project contributed to the improvement of the service delivery system that supports farmer cooperatives. The project constructed trading centers, farmers markets, and storage and cold chain facilities; provided agricultural technology through extension and advisory services, market information systems, financial services (e.g., insurance); provided food safety testing and quality control services; and carried out agriculture research and technology transfer activities, including recruitment of cooperative advisors. But there is no evidence that the provision of these various outputs was and would lead to changes to the organizational arrangements. It could be inferred, but the mix of success factors and specificity regarding the transformative effect is missing and thus the impact remains speculative.

Summary of Efficacy Assessment. The project supported a number of activities as noted above and exceeded one intermediate outcome target, the contribution of these activities to the achievement of the stated objective was documented by the ICR. However, given the lack of direct evidence on final development outcomes, the efficacy rating for Objective 2 is modest.

Rating
Modest

OBJECTIVE 3

Objective

To strengthen public service delivery in the Project Counties of Guizhou Province.

Rationale



Theory of Change (ToC). To achieve the stated objective, the project would support farmer technical training and cooperative management training. The expected outputs included: training of farmers, cooperative management staff and government staff conducted; and analytical studies finalized and disseminated. The expected outcome is improved government management capacity and service delivery. All this combined would contribute towards achieving the PDO "to demonstrate strengthened public service delivery in the Project Counties of Guizhou Province." The anticipated long-term impact was expected to be achieving inclusive and sustainable rural industrialization.

The achievement of this objective was underpinned by the following two critical assumptions: 1. The training provided would be technically and financially viable for farmers to adopt, and 2. An enabling policy environment would exist for the cooperatives management and sustainability.

The activities stated in the ToC were connected to outputs, but there had limited connection to the outcome and to the PDO.

Outputs/Intermediate Results

1. Three analytical studies were completed and disseminated compared to a target of: 2 (target exceeded).
2. 97,451 farmers were trained by gender and ethnic minority exceeding the target of: 88,000.
 - a. 43% of trained farmers were female (target: 30%, exceeded).
 - b. 60% of trained farmers belonged to an ethnic minority (target: 30%, exceeded).
3. 11,694 cooperative management staff were trained by gender and ethnic minority (person-times, cumulative) (target: 7,500, exceeded)
 - a. 22% of the trained staff were female (target: 20%;exceeded).
 - b. 51% of the trained staff belonged to an ethnic minority (target: 20%, exceeded).
4. 35 study tours and workshops conducted under the project for knowledge exchange (target achieved).

Outcome

- As with objective 2 this objective lacked any final outcome indicators to measure the achievement of the objective. The ICR (paragraph 44) reported that management capacities of the cooperatives improved. The Management Effectiveness Tracking Tool (METT) assessment showed a significant improvement of professionalism of the cooperatives: from an average score of 22 in the first round, to 34 in the second round, to 62 in the last round. The METT score measured management effectiveness of farmer cooperatives through a qualitative self-assessment. In a further communication, the project team emphasized that METT score was a key parameter to assess the outcome of the capacity building activities.
- The ICR also reported that the project significantly increased household incomes and contributed to poverty reduction. The endline survey, showed that the average income of the 440 project villages households increased from US\$ 6,670 to US\$ 10,880 at midline and to at US\$ 11,725 endline. In comparison, the average income of households residing in the non-targeted villages increased from US\$ 7,911 to US\$ 11,017 at midline and to US\$11,519 at endline. The difference-in-difference growth rate was 30% when comparing cooperatives and villages without cooperatives.

Summary of Efficacy Assessment. The project supported a number of activities as noted above and met or exceeded its intermediate outcome targets, the contribution of these activities to the achievement of the stated objective was documented by the ICR. The project also achieved significant improvement in



management effectiveness of cooperatives as noted above. However, given the lack of direct evidence on final development outcomes, the efficacy rating for Objective 3 is substantial, with shortcomings.

Rating
Substantial

OVERALL EFFICACY

Rationale

Overall Efficacy was rated Substantial, with moderate shortcomings. The ICR reflected convincing evidence on the achievement of the first objective, and relied on intermediate outcome indicators to assess the achievement of the third objective. The progress against the second objective remains vague and it is not clear from the activities that there has been a transformation in the relevant organizational arrangements. The assessment of both the second and third objectives of the project was undermined by the lack of final outcome indicators to comprehensively measure the achievement of these two objectives making the achievement marginally so.

Overall Efficacy Rating

Substantial

5. Efficiency

Economic and Financial Analysis (EFA)

ex ante

- The overall Economic Rate of Return (ERR), taking into account all overhead costs, was estimated at 18.5% with a Net Present Value (NPV) of RMB366 million.
- Financial Internal Rate of Returns (FIRRs) of cropping and household activity models ranged between 6.1% to 38.8%
- Direct benefits expected from the project included: improved productivity, value-addition, and market opportunities which are expected to result in increased incomes and long-term local employment opportunities.
- A standard cost-benefit analysis of various value chain production systems in the project areas was used to assess expected economic development impact. No separate benefits are calculated for project investments in public infrastructure, institutional capacity building, training, market development, risk mitigation and project management and evaluation.
- Sensitivity Analysis. The economic return was not sensitive to increases in the project investment costs. A cost increase of 10% would reduce the EIRR by one percent and a cost increase of 20% would reduce



the EIRR by two percent. The project's economic viability was however sensitive to changes in the agricultural product prices. For example, if all output prices would drop by 10% the EIRR would drop from 18.5% to 11.2%.

- Overall, the PAD EFA was comprehensive and provided enough justification for the project investments.

ex post

- The overall economic rate of return (ERR) was estimated at 22% compared to 18.5% at appraisal. The ERR was based on: (i) the net benefits from operations of the 19 cooperatives, plus an additional 20% of their revenues; and (ii) apportioned costs for the 19 cooperatives from the total project costs. The financial internal rate of return (FIRRs) for the cooperatives ranged between 12% to 37% which was comparable to the appraisal estimates.
- Project benefits considered in the analysis included: (i) increased employment incomes from the extended value chain linkages; (ii) farm gate commodity price increases for non-members due to the operations of the cooperatives, and improved infrastructure and capacity building; and (iii) post-harvest loss reduction for non-members due to increased processing capacity and marketing access, particularly for perishable products. The analysis covered 19 cooperatives out of the 75 project-supported operational cooperatives.
- No ex post sensitivity analysis was conducted. The ICR (Annex 4) stated that a sensitivity analysis was not warranted because output prices were conservatively estimated, the cooperative investment costs were actual, which did not give rise to more variations to be assumed. This Review finds that conducting a sensitivity analysis would have been useful to give better insight on the impact of different scenarios on variations of the ERR. Assuming that no variations would arise was not a realistic assumption.

Implementation efficiency. The project closing date was extended by 12 months to allow more time for implementing the restructured project and to achieve the expected outcomes (ICR, paragraph 22). According to the ICR (paragraph 54) "procurement and financial management performance were generally satisfactory." While the project experienced implementation delays in the early stage, all project activities were completed before the extended project closure (ICR, paragraph 54). The project fully disbursed the Bank loan of US\$100 million. While the project management cost was slightly higher than the PAD estimation (US\$5.86 million compared to US\$5.35 million), the ICR (paragraph 54) noted that management cost accounted for less than 5% of overall project cost, which was "within accepted norms."

Summary of Efficiency Assessment. The overall economic rate of return (ERR) was estimated at 22% which exceeded the appraisal estimate at 18.5%. The implementation efficiency was adequate despite initial delays. Finally the ex-post EFA provided enough justification for the project investments, but could have benefited from conducting a sensitivity analysis. Therefore, Efficiency was rated Substantial.

Efficiency Rating

Substantial

- a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:



	Rate Available?	Point value (%)	*Coverage/Scope (%)
Appraisal	✓	18.50	0 ☑ Not Applicable
ICR Estimate	✓	22.00	0 ☑ Not Applicable

* Refers to percent of total project cost for which ERR/FRR was calculated.

6. Outcome

Relevance of Objectives was rated Substantial. Overall Efficacy was rated Substantial, with moderate shortcomings. The ICR reported convincing evidence on the achievement of the first objective, and relied on intermediate outcome indicators to support the limited achievement of the second and third objectives. The assessment of the second and third objectives of the project was undermined by the lack of final outcome indicators to comprehensively measure the achievement of these two objectives. Efficiency was rated Substantial. The overall economic rate of return (ERR) was estimated at 22% which exceeded the appraisal estimate at 18.5%.

Based on a Substantial rating for Relevance of Objectives, Overall Efficacy, and for Efficiency, the Outcome rating is Moderately Satisfactory. There were moderate shortcomings in the project's achievement of its objectives and its relevance.

a. Outcome Rating

Moderately Satisfactory

7. Risk to Development Outcome

The ICR discussed the following three risks that could potentially impact the development outcome:

1. Government ownership/commitment risk. The sustainability of the project development outcomes needs a conducive policy environment. After achieving its target of eradicating extreme poverty in December 2020, China is now transitioning to implementing its Rural Revitalization Program (RRP), for which cooperative based value chain development remains one of the key pillars (ICR, paragraph 95).

2. Institutional support risk. The sustainability of the project development outcomes needs continued institutional support and capacity building for farmer cooperatives. The Provincial Government issued a directive in August 2022 on the management of assets created by the poverty reduction programs for sustainability, with detailed arrangements for O&M costs. The PPMO committed to providing continued support to the cooperatives in areas of product marketing and cooperative management skills (ICR, paragraph 96).

3. Financial risk. The sustainability of the project development outcomes will benefit from enhancing cooperative financial sustainability. The financial viability of the project-supported cooperative has



been assessed and market risk will be mitigated through linkages and co-financing arrangements with the private sector. The involvement of the private sector provides cooperatives with clear business rationale, sound management, and business planning to enhance market competitiveness for longer-term sustainability (ICR, paragraph 97).

8. Assessment of Bank Performance

a. Quality-at-Entry

- **Strategic relevance and approach.** The project was strategically relevant and in line with Bank strategies and Borrower priorities (see section 3 for more details). However, the PDO was broad and lacked clear connection with the PDO indicators (see section 9 a for more details).
- **Technical, financial, and economic aspects.** The project design adopted an integrated approach, combining infrastructure investment and capacity building for farmers' cooperatives. It was designed to promote the participation of agro-enterprises and seek to leverage private sector investments, which were expected to provide a clear business rationale and longer-term sustainability of the commodity value chain. However, the causal relationship between the stated activities and the PDO were not well developed. The ICR (paragraph 68) noted that the project design "underestimated the time and effort needed for establishing viable and pro-poor business-oriented farmer cooperatives at the county level."
- **Poverty, gender, and social development aspects.** The project was designed to support the government's poverty reduction strategy in the 2011-2020 Outline, which highlighted the critical role of industrial development, including in the agriculture sector, for poverty alleviation. Project sites were located in two nationally recognized poor mountainous regions (Wuling and Wumeng mountains) and most project villages were listed as key poverty reduction villages. Providing equal opportunity for women to take part in the development of farmer cooperatives was identified as a challenging task and was taken into account. Special consideration would be given to the voices of women as a vulnerable group, both in accessing employment and in taking part in cooperative decisions.
- **Environmental and Fiduciary aspects.** The project design included appropriate environmental and social risk assessments with adequate mitigation strategies. Fiduciary aspects were also adequately covered in the PAD. Overall, financial management and procurement arrangements were adequate.
- **Implementation arrangements.** The implementation management structure was effectively designed adopting similar arrangements followed under previous World Bank poverty reduction projects (ICR, paragraph 66).
- **Risk assessment.** Seven risks were identified at appraisal that related to three main areas: stakeholders, implementation agency and project-specific risks. The overall risk in project implementation was Substantial with the limited capacity of the implementing agencies at the provincial and county levels to implement the project and the challenges associated with institutional innovation seen two main risks to the achievement of the PDO (PAD, paragraph 30). According to the ICR (paragraph 65) "the project risks were clearly identified and effective mitigation measures were incorporated into the project design."



- **M&E arrangements.** M&E design was poor with a complex PDO that had a poorly defined relation with the PDO indicators. This undermined the project and made assessing the achievement of the PDO difficult.

Summary of QAE Assessment. While the project was strategically relevant, it had a complex PDO. The project design adopted an integrated approach, combining infrastructure investment and capacity building for farmers' cooperatives. Design featured adequate environmental and fiduciary aspects. Implementation arrangements were adequate. Risk assessment was thorough with adequate mitigation measures. Finally, M&E arrangements had design shortcomings as noted above. Overall, Quality at Entry is rated Moderately Satisfactory.

Quality-at-Entry Rating

Moderately Satisfactory

b. Quality of supervision

- The Bank conducted 15 supervision missions over the duration of the implementation period. According to the ICR (paragraph 92) Bank missions had the appropriate mix of specialists. Missions were conducted virtually during the COVID-19 outbreak. The PPMO benefited from the team's strategic and operational guidance specifically during the earlier missions.
- The Bank's supervision missions effectively promoted the standardized procurement, improved FM, and proposed measures on environmental and social safeguards. Also, the China-Based Bank task team members mostly stayed in place from preparation through completion, together with most technical staff, which according to ICR (paragraph 92) enabled the team to provide timely solutions to the client.
- However, the Bank team should have worked on restructuring the project earlier and comprehensively address the PDO complication and the M&E design weaknesses.

Summary of Quality of Supervision Assessment. The Bank team actively guided the project implementation. However, the Bank Supervision should have attempted to address M&E design shortcomings to enable a comprehensive assessment of the project outcomes. Overall, the Bank supervision is rated Moderately Satisfactory.

Based on the assigned ratings for Quality at Entry and Supervision, Bank Performance is rated Moderately Satisfactory.

Quality of Supervision Rating

Moderately Satisfactory

Overall Bank Performance Rating

Moderately Satisfactory



9. M&E Design, Implementation, & Utilization

a. M&E Design

- The PAD did not include a Theory of Change (ToC) which was not required by the Bank at the time of appraisal. Nonetheless, the ICR included a ToC that was constructed based on the project activities, outputs, and outcomes as described in the PAD. However, the PDO lacked clear connections with the outcomes.
- The achievement of the PDO was assessed through measuring four PDO outcome indicators: (a) Percentage of cooperatives making a profit (financial success and sustainability indicator); (b) Net Present Value generated by project investments (economic success indicator); (c) Share of poor households in the community that join newly established or improved cooperatives (outreach and inclusiveness indicator); and (d) Private enterprise investments leveraged through project investments (indicating the success of modernization and attractiveness of key value chains for private investment). These four indicators were pitched more at the intermediate outcome level, and lacked a clear connection with the stated PDO. In addition, the second indicator overlapped with the first, and according to the ICR (paragraph 16) had measurement difficulties and was dropped during implementation. Finally, the PDO as stated included three objectives (see section 2A). The second and third objectives of the PDO lacked any outcome level indicators to measure their achievement. In fact, the ICR relied on intermediate outcome indicators to measure objectives 2 and 3.
- The Results Framework (RF) included 11 intermediate results indicators (IRIs) to track and measure the different activities supported by the project. Overall, the IRIs were measurable and directly connected to the supported activities. However, some project supported activities were not covered in the RF such as irrigation and market facilities (ICR, paragraph 75).
- Overall, M&E design was poor and lacked relevant outcome indicators to assess the full a scope of the PDO. While causal relationships between project interventions and the intermediate and PDO indicators were adequate, the formulation of the PDO and the relation with PDO indicators were not clearly defined (ICR, paragraphs 63 & 67).

b. M&E Implementation

- According to the ICR (paragraph 75) "M&E arrangements were supported with adequate budget and defined institutional responsibilities, with the PPMO for overall planning, coordination, and internal M&E implementation." A computerized management information system (MIS) was set up at the county and provincial PMO levels to track and document physical, institutional, and financial project progress.
- Delayed data inputting caused the MIS data to lag behind the actual physical progress. The ICR also noted that there were some inconsistencies for a few intermediate results indicators in the MIS records and the Implementation Status and Results Reports (ICR, paragraph 78).
- External entities were contracted to undertake independent evaluation of project interventions through representative surveys. Those were conducted at three stages: at baseline, at the mid-term, and a final survey at project completion.
- The Cooperative METT was adopted to measure the management effectiveness of farmer cooperatives supported by the project (ICR, paragraph 79)
- Restructuring and revision of targets. The end target for PDO Indicator 1 was reduced from 60 to 40% to make it consistent with the newly updated poverty database established under the



Precision Poverty Alleviation Program and other ongoing similar poverty reduction projects. Also, PDO Indicator 2 (Net Present Value generated by project investment) was dropped due to its overlap with PDO Indicator 1 in measuring economic success and financial viability as well as measurement difficulties; and a clarified the definition of 'village' as 'administrative village' for PDO Indicator 3 was included and the target was reduced from 80 to 60%. There were also revisions to the IRIs where three saw their targets reduced, one was dropped and one had a clarification to its definition.

- While the project was restructured, the M&E design problems persisted and were not comprehensively addressed.

c. M&E Utilization

- The data and information generated through the project's M&E reports were used to assess the implementation progress of activities and the likelihood of the project achieving its PDO and contributed substantially to the project restructuring and ICR preparation (ICR, paragraph 79).
- The M&E data informed project management and helped in decision making. This was evidenced by the identification of implementation bottlenecks and the reallocations of Bank loan proceeds.
- According to the ICR "information gathered in the M&E process also helped identify best practices that would be scaled up at the provincial level."

Summary of M&E Quality Assessment. The M&E design suffered from significant shortcomings that undermined the possibility of conducting a comprehensive assessment of the PDO. During implementation, these design shortcomings were not fully addressed at restructuring. While there was adequate utilization of the data generated through the M&E system, it was not enough to comprehensively assess the achievement of the PDO. Therefore, M&E Quality is rated Modest.

M&E Quality Rating

Modest

10. Other Issues

a. Safeguards

The project was classified as an environmental Category B. It triggered the following environmental safeguard policies: Environmental Assessment (OP 4.01), Pest Management (OP 4.09), and Natural Habitats (OP/BP 4.04). Also two social safeguard policies were triggered: Indigenous Peoples (OP/BP 4.10) and Involuntary Resettlement (OP/BP 4.12). While the project overall was expected to generate positive environmental benefits, activities under two of its components could have adverse environmental impacts that require mitigation. An Environmental Management Plan (EMP), a Pest Management Plan (PMP) and an Ethnic Minority Development Plan (EMDP) were prepared. Also, a Resettlement Policy Framework (RPF) would guide any project-related land acquisition.

Compliance with Environmental Safeguards. The ICR (paragraph 81) stated that "all environmental and social safeguards policies were complied with." Environmental mitigation measures were implemented



by the client as detailed in the ESMP. The Natural Habitats (OP/BP 4.04) policy was triggered for a precautionary reason. According to the ICR (paragraph 83) project sites were carefully selected to avoid sensitive areas throughout project implementation. The project also successfully implemented the PMP (paragraph 84).

Compliance with Social Safeguards. As noted above, all social safeguards policies were complied with (ICR, paragraph 81). Four ethnic groups, the Miao, Yi, Tujia, and Gelao were identified in the project area through a social impact assessment. An Ethnic Minority Development Plan (EMDP) was implemented to enable ethnic minorities to fully participate in and benefit from the project and to ensure the protection of their interests and rights in land and resources. Also, a grievance redress mechanism (GRM) was established. According to the ICR (paragraph 86) "there was no dispute over land throughout project implementation."

b. Fiduciary Compliance

Financial Management (FM). FM experienced some weaknesses related to delays in submitting interim financial reports (IFRs), inadequate presentation of project financial statements, some inaccurate accounting treatment, and weak internal controls, particularly for farm cooperatives (ICR, paragraph 87). These weaknesses were gradually addressed through remedial actions and relevant Bank support. According to the ICR (paragraph 87) the "project audit reports were submitted annually to the World Bank with acceptable quality and unmodified (clear) audit opinion."

Procurement. The project procurement risk was identified as high at appraisal. To address this risk, cooperative procurement training was provided regularly by the Bank and PPMO to project staff at the county and cooperative levels. According to the ICR (paragraph 89) "no significant procurement issues were noted by the World Bank supervision missions or procurement post reviews, or disclosed by the external auditors."

c. Unintended impacts (Positive or Negative)

None.

d. Other

None.

11. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
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Outcome	Satisfactory	Moderately Satisfactory	There were moderate shortcomings in the project's achievement of its objectives.
Bank Performance	Satisfactory	Moderately Satisfactory	Quality at Entry had moderate shortcomings.
Quality of M&E	Substantial	Modest	M&E design had significant shortcomings that were not fully addressed during implementation.
Quality of ICR	---	Substantial	

12. Lessons

The ICR included five lessons. The following three are emphasized with some adaptation of language:

1. Establishing productive partnerships between cooperatives and enterprises can be an effective approach to leveraging private sector investments to strengthen agricultural value chains and reduce poverty. The project experience demonstrated that farmer cooperatives have proven to be an effective development model for strengthening agricultural value chains and reducing poverty. The innovative model piloted by this project was scaled up by the government and World Bank programs.

2. Insurance against natural disaster risks can be a useful tool to reduce farmers vulnerability against climate risks. The pilot insurance scheme demonstrated its impact on lowering the operational and climate risks but further efforts are needed for tailored products to address the specific needs of the cooperatives. Farmers in the project area are vulnerable to nature disaster risks, for which more well targeted insurance schemes need to be developed to address specific needs of the cooperatives.

3. Creating an enabling environment through infrastructure development is key to supporting and developing market linkages. Public investments in infrastructure opened access to markets, lowered transportation and storage costs, and reduced post-harvest waste. It was also instrumental to productivity increases (irrigation) and production upgrading (market infrastructure).

13. Assessment Recommended?

Yes

Please Explain



Further assessment of the project achievements is warranted given the disconnect between the PDO and its outcome indicators. Verifying results on the ground would give an opportunity to assess the actual project achievements and provide a more informed picture on any sustainability issues.

14. Comments on Quality of ICR

Quality of Evidence. While the ICR benefited from the data collected by the M&E system, assessing the achievement of the PDO was challenging due to M&E design shortcomings. Targets for some outputs in (Annex 1) were not reported.

Quality of Analysis. The ICR provided clear links between evidence and findings to the extent possible, and used the evidence base to serve the arguments under the different sections, in particular the discussion on outcomes. However, the ICR did not provide a comprehensive assessment on the achievement of the PDO due to M&E design shortcomings.

Lessons. Lessons reflected the project experience and were based on evidence and analysis.

Results Orientation. The ICR included a comprehensive discussion on the achievement of the PDO. However, the outcome discussion at times lacked evidence to back the stated claims.

Consistency with guidelines. The ICR used the available data to justify most of the assigned ratings. The ICR included an explicit statement on the compliance of the project with the Bank's safeguard policies. Also, the discussion on safeguards covered all the triggered policies.

Conciseness. The ICR provided comprehensive coverage of project activities, and candidly reported on most shortcomings in a concise and well written report. However, at 24 pages the main body of the report was slightly lengthy.

Summary of the Quality of ICR Assessment. Overall, the ICR was undermined by the poor M&E design and justifying the outcome of the project relied on intermediate outcome indicators. The ICR reflected relevant lessons and adequately reported on safeguard compliance and fiduciary aspects. Overall, the Quality of the ICR is rated Substantial, with minor shortcomings.

a. Quality of ICR Rating Substantial

